



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 4  
ATLANTA FEDERAL CENTER  
61 FORSYTH STREET  
ATLANTA, GEORGIA 30303-8960

August 22, 2000

4WD-NSMB

**MEMORANDUM**

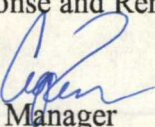
**SUBJECT:** Former Virginia-Carolina Chemical Corporation Phosphate/Fertilizer Manufacturing Facilities in Region 4; Framework for Settlement Negotiations with ExxonMobil.

**TO:** Richard D. Green, Director  
Waste Management Division

Robert Jourdan, Chief  
North Site Management Branch

Curt Fehn, Chief  
South Site Management Branch

Myron D. Lair, Chief  
Emergency Response and Removal Branch

**FROM:** Craig Zeller, P.E.   
Remedial Project Manager

This memorandum is written to provide you an update and gain your concurrence regarding a framework for settlement negotiations with ExxonMobil for former Virginia-Carolina Chemical Corporation facilities in EPA-Region 4.

**BACKGROUND**

In early 1998, I initiated a geographic initiative in a 7.5 square mile area of the Charleston, South Carolina peninsula that focused on the area's former phosphate/fertilizer manufacturing industry. This effort was an integral component of EAD's Community Based Environmental Protection (CBEP) initiative in the Charleston/North Charleston area. The goal of the phosphate/fertilizer effort was straight forward; produce results for the surrounding community as measured by site characterization and cleanup efforts. By utilizing the full complement of technical and statutory mechanisms available, CERCLA's contributions to the CBEP have been significant. To date, the phosphate/fertilizer initiative in Charleston has produced one Time Critical Removal Action (Enforcement), one Fund-Lead RI/FS, three Non-Time Critical Removal Actions (Enforcement), one State-Lead RI/FS (Enforcement), and one State-Lead Voluntary Cleanup Contract.



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Through the Charleston, South Carolina phosphate/fertilizer initiative, we have learned a great deal regarding the manufacturing processes employed and the primary entities engaged in the production of phosphate-based fertilizer from the early 1900's to the mid-1970's. In general, phosphate-based fertilizer manufacturing involved reacting phosphate ores with sulfuric acid to produce phosphoric acid, the building block of Nitrogen-Phosphorus-Potassium (N-P-K) agricultural fertilizers. In the early years of production (< 1925), locally mined phosphate rock was often utilized in the manufacturing processes. Due to its superior quality, phosphate ore from the vast deposits east of Tampa, Florida was later substituted as feed stock. Sulfuric acid was manufactured at the facility using the lead-chamber process. Sulfur was burned in the presence of oxygen to produce sulfur trioxide gas ( $\text{SO}_3$ ). Before 1935, pyrite ores ( $\text{FeS}_2$ ) were a common source of sulfur. Elemental sulfur was later substituted in the process due to economic advantages in product purity. Sulfur trioxide gas ( $\text{SO}_3$ ) was reacted with water mist ( $\text{H}_2\text{O}$ ) by passing through a Glover Tower to produce sulfuric acid ( $\text{H}_2\text{SO}_4$ ). Sulfuric acid was stored in lead-lined chambers for use in the production of superphosphate.

The phosphate/fertilizer industry in the Southeastern United States grew rapidly. By the late 1930's and early 1940's, the top three phosphate-based fertilizer producing states by ton were North Carolina, South Carolina and Georgia. Superphosphates represented the primary agricultural fertilizer produced through the early 1960's. Subsequent to this time period, the industry started to decline due to the emergence of ammonium phosphates and solid/liquid mixed fertilizers. These newly developed fertilizers offered a more complete product containing all three nutrients in varying N-P-K ratios and eventually gained preference in the marketplace over normal superphosphates.

Environmental impacts typically associated with the above described process include acidic pH conditions and elevated concentrations of lead and arsenic in soil, sediment, shallow groundwater, and surface water in close proximity to the former location of the acid chambers. Acidic pH conditions tend to increase the solubility of some inorganic constituents, thus facilitating contaminant transport pathways that may adversely impact human health and/or the environment.

One of the primary entities involved in the production of superphosphates was the Virginia-Carolina (VC) Chemical Corporation. Extensive research conducted by Kevin Beswick, Assistant Regional Counsel, identified the principal plants and properties of VC Chemical Corporation in EPA-Region 4. A summary list is enclosed to this memorandum that identifies former VC facilities in 27 cities. By way of corporate mergers and acquisitions, the ExxonMobil Corporation is successor in interest to environmental liabilities of the VC Chemical Corporation.

## RECENT DEVELOPMENTS

Over the past several months, Kevin Beswick and I have been conducting negotiations with ExxonMobil representatives regarding the performance of Non-Time Critical Removal Actions (Engineering Evaluation/Cost Analysis) under a Removal Action Administrative Order on Consent (AOC) for three former VC facilities along the Ashley River corridor in Charleston, South Carolina. The Draft AOC has been revised pursuant to several iterations of comments and is expected to be Final by the end of August 2000. In addition, a Draft Removal Action AOC for a Time-Critical Removal Action at the Wadesboro, North Carolina VC facility was prepared by John Nolen (OSC) and Jennifer Lewis (Assistant Regional Counsel), and submitted to ExxonMobil on August 7, 2000. Ken Mallery (RPM) has also been actively involved with site characterization and response efforts at former phosphate/fertilizer facilities in the Wilmington, North Carolina area. As a result of these recent negotiations and developments, ExxonMobil has submitted a proposal to me regarding a framework by which EPA and ExxonMobil can work together collaboratively to resolve outstanding environmental issues with regard to historical VC fertilizer operations. This letter, dated August 17, 2000, is enclosed for your review and information.

The enclosed proposal envisions a two-phased approach. Phase I involves defining the "universe" of VC facilities utilizing existing information, and new information generated by consultants hired by ExxonMobil. Phase II would focus on site characterization and cleanup activities on those sites where warranted using Time-Critical Removal Actions (referred to as "interim actions"), Non-Time Critical Removal Actions, and other NCP equivalent actions. The scope and type of future site actions would be determined by a dedicated project team consisting of ExxonMobil and EPA-Region 4 representatives.

I believe there several readily apparent advantages to this conceptual strategy. First, "model" AOC agreements could be developed from the Charleston, SC and Wadesboro, NC efforts that are well underway. As we progress through the pipeline of prioritized sites in Phase II, we could utilize the "model" agreements to eliminate unnecessary wrangling over legal language and simply tailor the "Statement of Facts" and "Work to be Performed" sections to the site-specific conditions. Second, given the similarity and our sound understanding of manufacturing processes employed, a site characterization strategy could be standardized that would eliminate duplication of effort each time the need arises to investigate contaminant distribution. Finally, these concepts could lead to the development of a presumptive remedy approach that would build consistency in our program and expedite remedy selection and implementation.



PATH FORWARD

I believe implementation of the above framework could best be accomplished by the formation of an EPA project team. I would like to propose the following multi-disciplined individuals based on their past experience relative to phosphate/fertilizer facilities, and their expressed desire to work together in the team environment:

Craig Zeller - Team Leader/Remedial Project Manager  
Ken Mallery - Remedial Project Manager  
John Nolen - On-Scene Coordinator  
Loften Carr - Site Assessment Expertise  
Kevin Beswick - Assistant Regional Counsel  
Jennifer Lewis - Assistant Regional Counsel

Please note the above proposed individuals would form the "core" team that should be sufficient to complete the Phase I effort. Other appropriate staff could be added when the future work load is better defined in Phase II.

In conclusion, I would like to schedule a meeting next week to discuss compiling a unified EPA response to the August 17, 2000 ExxonMobil letter. I can meet anytime August 28-29 and before lunch on August 30. Please notify me at extension 2-8827 if you are interested in participating in such a meeting and I will arrange the logistics. Thank you for your time and consideration.

Enclosures

cc. Don Rigger  
Mike Norman  
Phil Vorsatz  
Harold Taylor  
Joanne Benante  
Mario Villamarzo  
Jim McGuire  
Ken Mallery  
John Nolen  
Loften Carr  
✓ Rick Leahy  
Kevin Beswick  
Jennifer Lewis

**PRINCIPAL VCC FERTILIZER PLANTS & PROPERTIES**  
**U.S. EPA - Region 4**

<u>ALABAMA:</u>	Birmingham, Dothan, Mobile, Montgomery, Wylam
<u>FLORIDA:</u>	Jacksonville, Nichols
<u>GEORGIA:</u>	Albany, Athens, Atlanta, Augusta, Rome, Savannah
<u>KENTUCKY:</u>	Hopkinsville
<u>MISSISSIPPI:</u>	Jackson
<u>NORTH CAROLINA:</u>	Charlotte, Durham, Greenville, New Bern, Selma, Wadesboro, Washington, Wilmington
<u>SOUTH CAROLINA:</u>	Charleston, Greenville
<u>TENNESSEE:</u>	Memphis, Mount Pleasant

Reference:    Moody's Manual of Investments, Industrial Securities (Years 1940, 1950 , 1954,  
1955, 1956, 1957, 1958, 1959, 1960).

**ExxonMobil**  
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August 17, 2000

Craig Zeller, PE  
U. S. Environmental Protection Agency, Region 4  
61 Forsyth Street, SW  
Atlanta, GA 30303

Dear Craig:

We wanted to thank you and the Region 4 team that met with us on July 24, 2000 in Atlanta. We are very encouraged by the discussion and agree that there is great advantage to both ExxonMobil and the EPA in attempting to resolve outstanding environmental issues with respect to the Virginia-Carolina Fertilizer operations. By using the almost completed Administrative Order on Consent (AOC) as a foundation, we firmly believe and are committed to negotiating a "model" AOC that would direct future work. Obviously there are internal matters that both ExxonMobil and the EPA need to work out and in the spirit of this cooperative effort, we offer a framework for these discussions and the future work.

Attached to this letter is a conceptual flow diagram of how the work on a global project could flow. Based on our understanding of the discussions at our meeting, we view the global project to consist of two phases. Phase I would consist of a VCC facility inventory and prioritization based on previous site operations, past/current site status, existing available data, and potential risks posed. Phase II would begin under the "Future Site Actions" block on the attached flow diagram and would focus on site characterization and implementation of adequately protective response actions where warranted. This proposed workflow raises several issues as to implementation, responsibility, and team structure. The following are key items/issues that need to be addressed.

- **Project Team:** A project team needs to be established so there is efficient communication and accountability. We propose the ExxonMobil team to be: Michael Skinner (Company Lead), Shelby Moore (Counsel to ExxonMobil), and Michael Miller (Technical support and lead for ExxonMobil). We suggest that the EPA team include an appropriate mix of Remedial Project Managers (RPMS), On-Scene Coordinators (OSCs), attorneys and EPA staff familiar with the Site Assessment process.
- **Universe of VCC Sites:** The "universe" of VCC sites needs to be defined. Mobil would, working with the EPA, hire the appropriate consultants to investigate and compile a database of VCC properties.

- **AOC Negotiations:** A model AOC needs to be negotiated that could be used for the universe of sites in implementing the two-phased global strategy. Modifications could then be made that would address the unique characteristics for each of the sites in the project. For example sections could be drafted in the AOC for Time Critical Removal Actions, Non-Time Critical Removal Actions, and/or other NCP equivalent response actions as appropriate for specific sites. This approach could save ExxonMobil and EPA countless resource hours when compared to the traditional approach of dealing with sites on an individual basis.
- **Prioritization of Work:** ExxonMobil would complete the prioritization of sites by performing the appropriate site characterization investigation. This effort would also aid in prioritizing the actual work needed to be performed at each site.
- **Coordination with Stakeholders:** As appropriate, other state/local governmental agencies would be involved but the EPA would be the lead agency.

These items do not comprehend all aspects of the proposed work. The project team using a performance-based approach will determine the specific tasks and issues associated with this effort. The objective is to develop actions that are protective of human health and the environment as defined by CERCLA.

The three Ashley River AOCs for performance of Engineering Evaluation/Cost Analysis (EE/CA) will likely be signed in the very near future. ExxonMobil has recently received a Draft AOC for performance of a Time Critical Removal Action at the Wadesboro, North Carolina VCC facility. We believe it would be appropriate to kickoff the global approach by using these above sites as pilots to give us a real-time opportunity to test all of the decision points proposed in the attached flow diagram (e.g. Phase II/Future Site Actions).

We believe the approach that is outlined would be more cost effective and productive for both EPA and ExxonMobil than dealing with the VCC sites on a strictly individual basis. It would allow EPA to develop a consolidated and streamlined approach to EPA's oversight of the Virginia-Carolina sites, and prioritize the ExxonMobil work efforts to focus on any sites that may need interim on-site actions. If we were to address all of the individual sites on a site by site basis, the transactional costs and resource drain on both ExxonMobil and the EPA would be significant and the work would progress at a fraction of the speed and at a much greater cost.

Thank you for the opportunity to present the proposal and we look forward to receiving comments from appropriate EPA management. Please call if you have any questions.

Sincerely,



Michael J. Skinner  
Superfund Response Consultant

attachment

Cc: S. Moore

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# CONCEPTUAL MODEL FOR INTEGRATED SITE ASSESSMENT AND RESPONSE ACTION FORMER VIRGINIA-CAROLINA CHEMICAL FACILITIES US EPA REGION 4

